DETAILED ACTION

Response to Arguments

1. Applicant's arguments, see page 7 of the Remarks, filed on 7/21/2008, with respect to objection to the Specification, have been fully considered and are persuasive. The objection to the Specification has been withdrawn.

2. Applicant's arguments filed 7/21/2008, with respect to the rejections of claims 1-2, 6-7 under 35 USC 103, have been fully considered but they are not persuasive.

3. Regarding independent claims 1 and 7, the amendments do not overcome the rejections.

4. As stated in pages 8-10 of the remarks, the main arguments of the applicants are: according to the teaching of Matsueda, the ROM 15 is referred to as a sequential-g-correction ROM, and the D/A converter merely outputs 2M+N voltages, a plurality of grayscale level values of the driving voltages are corresponding to only a single gamma curve, while voltages are provided based on the data range of red, green, blue as indicated in the gamma correction curves (the color red has an independent gamma correction curve, the color green has an independent gamma correction curve, and the color blue has an independent gamma correction curve after the correction) according to the present invention.

5. Although the examiner agrees with the applicant about the assessment of the invention in the reference of Matsueda, the examiner disagrees to the conclusion. The primary reference of Lee et al teaches performing gamma correction to each RGB color independently (see paragraphs [0054]-[0055], and Figs. 7-8) and using three curves

(Fig. 9 and paragraph [0062], see difference curves for R and B. Effectively, RGB colors use different curves). Therefore in the combination of Lee and Matsueda for showing the obviousness of the instant claimed invention, the deficiency as pointed out by the applicant is not relevant. That is, the combination of Lee and Matsueda renders the claims 1 and 7 obvious to one of the ordinary skill in the art at the time of the invention. For clarity, the rejections are revised. However, the rejections of the claims 1 and 7 remain.

6. The dependent claims 2 and 6 from claim 1 also remain rejected.

Claim Rejections - 35 USC § 103

7. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

8. Claims 1-2, 6-7 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lee et al (US Pub. 2006/0208983 A1), and in view of Matsueda (US Pub. 2002/0149556 A1).

9. Regarding claim 1, Lee et al teaches a color correcting circuit coupled to a video source and a display panel (see Fig. 1 and paragraph [0029] for the color correction circuit, and display panel. And in paragraph [0004], it is stated that the display device is used for computers and televisions. That implies that the input image data includes video source, e.g., for televisions), comprising:

a video look-up circuit, coupled to the video source, wherein an N bit video data from the video source is modulated into an N+M bit video data according to a color look-up table, wherein the N+M bit video data comprises N+M bit video data tier a color red, green, or blue (see element 42 in Fig. 3 and paragraph [0034]. N bit data is converted to m bit data, where m>n, using look-up tables. Here m is the same as N+M in the instant claim);

an N+M bit data driving circuit, coupled to the video lookup circuit for receiving and outputting the N+M bit video data (see element 43, the Color Correction Matrix in Fig. 3 and paragraph [0046]);

wherein, M is a natural number.

Lee et al also teaches the gamma voltage generating circuit, and providing the voltages in every step according to the color of the N bit video data and the values found in a gamma color correction table (see elements 20, 30, and 50 in Fig. 1; Fig. 9).

10. However, Lee et al does not teach an *N+M* bit data gamma voltage generating circuit, coupled to the *N+M* bit data driving circuit for receiving the *N+M* bit video data and providing the voltages in every step according to the color of the *N+M* bit video data and the values found in a gamma color correction table.

11. The difference between the instant claim and the Lee et al is that, the gamma voltage generating circuit is for *N+M* bit data, and performing gamma correction on *N+M* bit data in the instant claim, while the gamma voltage generating circuit is for *N* bit data, and performing gamma correction on *N* bit data in Lee et al.

12. Matsueda, in the same field of endeavor, teaches a N+M bit data gamma voltage generating circuit, coupled to the N+M bit data driving circuit for receiving the N+M bit video data and providing the voltages in every step according to the values found in a gamma color correction table (see Figs. 1 and 5, an paragraph [0052]. 2^{n+m} voltages can be outputted). This method would make the every data value being represented by a unique voltage level.

13. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the circuit as shown in Lee et al by using a N+M bit data gamma voltage generating circuit as shown in Matsueda so that the bit number for the gamma voltage generating circuit matches the bit number of the data received by the circuit for the benefit that the every data value is represented by a unique voltage level.

14. Regarding claim 2, the combination of Lee et al and Matsueda remains as applied to claim 1 above. The combination would teaches that the N+M bit data gamma voltage generating circuit comprises a gamma correction circuit (again see paragraph [0052] in Matsueda for gamma correction and the N+M bit data gamma voltage generating circuit).

15. Regarding claim 6, Lee et al teaches that the display panel displays the corrected N+M bit video data (the display panel is used for televisions, see paragraph [0004]).

16. Regarding claim 7, Lee et al teaches a method of correcting the colors of a display, comprising the steps of:

providing an N bit video data (see Fig. 1 for the color (RGB) image data input. Also in paragraph [0004], it is stated that the display device is used for computers and

televisions. That implies that the input image data includes video data, e.g., for televisions);

modulating the N bit video data into an N+M bit video data according to a color look-up table (see element 42 in Fig. 3 and paragraph [0034]. N bit data is converted to m bit data, where m>n, using look-up tables. Here m is the same as N+M in the instant claim);

wherein, M is a natural number.

Lee et al also teaches the gamma voltage generating circuit, and providing the voltages in every step according to the color of the N bit video data and the values found in a gamma color correction table (see elements 20, 30, and 50 in Fig. 1; Fig. 9).

17. However, Lee et al does not teach an *N+M* bit data gamma voltage generating circuit, coupled to the *N+M* bit data driving circuit for receiving the *N+M* bit video data and providing the voltages in every step according to the color of the *N+M* bit video data and the values found in a gamma color correction table.

18. The difference between the instant claim and the Lee et al is that, the gamma voltage generating circuit is for *N+M* bit data, and performing gamma correction on *N+M* bit data in the instant claim, while the gamma voltage generating circuit is for *N* bit data, and performing gamma correction on *N* bit data in Lee et al.

19. Matsueda, in the same field of endeavor, teaches providing the voltages of every step for the N+M bit video data according to the values found from a gamma color correction table (see Figs. 1 and 5, an paragraph [0052]. 2^{n+m} voltages can be

outputted). This method would make the every data value being represented by a unique voltage level.

20. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the method as shown in Lee et al by providing the voltages of every step for the N+M bit video data as shown in Matsueda for the benefit that the every data value is represented by a unique voltage level.

Conclusion

21. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to TIZE MA whose telephone number is (571)270-3709. The examiner can normally be reached on Mon-Fri 7:30-5:00 EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Xiao M. Wu can be reached on 571-272-7761. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Tm

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